

IN THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

1. (previously amended) A implantable brachytherapy treatment system, comprising a therapy delivery portion comprising at least one flexible non-dissolving casing and a support member or shielding enclosed within the casing; and one or more radiation sources fixed relative to or received in the casing.

2-39. (canceled)

40. (previously amended) A kit for delivering brachytherapy to a target tissue region of a body, the kit comprising:

a removably implantable elongate brachytherapy device comprising a therapy delivery portion; and one or more low dose radiation (LDR) radioactive sources secured to the therapy delivery portion;

at least one non-dissolving flexible tail portion; and

a catheter for delivering the brachytherapy device to the target tissue region.

41-91. (canceled)

92. (previously presented) A system for delivering brachytherapy to a target tissue region of the breast, comprising:

at least one elongate tubular member comprising proximal and distal ends and a lumen extending therebetween, the tubular member configured to be delivered along a first axis within the target tissue region;

one or more radiation sources disposed within the lumen of the tubular member for delivering radiation therapy to the target tissue region along a second non-linear axis; and
a support member provided adjacent the one or more radiation sources.

93. (canceled)

94. (canceled)

95. (previously presented) The system of claim 92, wherein the support member is enclosed within the at least one tubular member.

96. (previously presented) The system of claim 95, wherein the at least one tubular member comprises heat shrink tubing.

97. (previously presented) The system of claim 92, wherein the support member has curvature in its relaxed state.

98. (previously presented) The system of claim 92, wherein the support member is sufficiently flexible to permit curved implantation.

99. (previously presented) The system of claim 92, wherein the lumen of the at least one tubular member comprises a first lumen for receiving the one or more radiation sources therein, and the at least one tubular member comprises a second lumen containing the support member.

100. (canceled)

101. (previously presented) The system of claim 92, wherein the one or more radiation sources comprise a plurality of radioactive seeds spaced apart along the tubular member.

102-104. (canceled)

105. (previously presented) The system of claim 92, further comprising a plurality of additional elongate tubular members, each comprising proximal and distal ends, a lumen extending therebetween for receiving one or more radiation sources, and configured to be implanted along a non-linear axis within the target tissue region.

106. (previously presented) The system of claim 105, further comprising means for delivering the plurality of additional elongate therapy devices.

107. (previously presented) A system for delivering brachytherapy to a target tissue region within a breast, the system comprising a plurality of elongate therapy devices, each comprising a therapy delivery portion advanceable through tissue in a straight configuration and deployable to a curved configuration within the breast for delivery of radiation to the target tissue region.

108. (previously presented) The system of claim 107, wherein each therapy delivery portion is configured in the curved configuration to provide conformance of the delivery portion to a shape of the target tissue region to be irradiated.

109. (previously presented) The system of claim 107, further comprising means for delivering the plurality of elongate therapy devices through tissue to the target tissue region.

110. (previously presented) The system of claim 109, wherein the means for delivering the plurality of elongate therapy devices comprises a plurality of tubular members for receiving respective therapy devices therethrough.

111. (canceled)

112. (canceled)

113. (previously presented) The system of claim 107, wherein each therapy delivery portion comprises one or more radiation sources for delivering radiation to tissue adjacent the therapy delivery portion.

114. (previously presented) The system of claim 107, wherein the one or more radiation sources comprise a plurality of radioactive seeds spaced apart along the therapy delivery portion.

115-148. (canceled)

149. (previously presented) A system for delivering radiation therapy to a target tissue region within a breast, comprising:

at least one therapy delivery element comprising a tubular member, the tubular member constructed to cause bending in a predetermined, preferred plane of bending to provide conformance of the at least one therapy delivery element to the target region of the lumpectomy cavity to be irradiated; and

one or more radiation sources carried by the tubular member.

150. (previously presented) The system of claim 149, wherein the therapy delivery element is constructed to curve within or around the target tissue region.

151. (previously presented) The system of claim 149, further comprising a support member extending along the tubular member to cause bending in a preferred direction.

152. (previously presented) The system of claim 151, wherein the support member comprises a metallic strip.

153. (canceled)

154. (previously presented) The system of claim 151, wherein the support member is encased within the tubular member.

155. (previously presented) The system of claim 151, wherein the tubular member comprises a first lumen for receiving the one or more radiation sources and a second lumen containing the support member.

156. (previously presented) The system of claim 149, wherein the tubular member comprises heat shrink tubing.

157. (previously presented) The system of claim 149, wherein the therapy delivery element assumes a repeating pattern of curvilinear pathways within or around the target tissue region when deployed at the target tissue region.

158. (previously presented) The system of claim 157, wherein the therapy delivery element curves within or around the target tissue region.

159-180. (canceled)